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Washington
Annual Data Summary
Water Year 1993



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An Annual Summary

Foreword

This report summarizes the snow water equivalent and precipitation data collected during this water year. This information was utilized in preparing the Soil Conservation Service Water Supply Outlook Reports, January 1st through June 1st.

These data were obtained using a combination of manual and automated measurement methods and are presented as a historical summary.

For More Information

Copies of this Annual Data Summary and monthly Water Supply Outlook Reports may be obtained from the states listed below. Historical snow survey data may be obtained at those same offices. Computer access to water supply information may be gained through the Centralized Forecast System (CFS) at Portland, Oregon. For more information contact the state offices listed below.

STATE	ADDRESS
Alaska	949 E. 36th Avenue, Suite 400, Anchorage, AK 99508-4302
Arizona	3003 North Central Avenue, Suite 800, Phoenix, AZ 85012-2945
California	2121-C 2nd Street, Suite 102, Davis, CA 95616-5475
Colorado	655 Parfet Street, Room E200C, Lakewood, CO 80215-5517
Idaho	3244 Elder Street, Room 124, Boise, ID 83705-4711
Montana	Federal Building, Room 443, 10 E. Babcock, Bozeman, MT 59715
Nevada	5301 Longley Lane, Building F, Suite 201, Reno, NV 89511
New Mexico	517 Gold Ave. S.W., Room 3301, Albuquerque, NM 87102-3157
Oregon	Green-Wyatt Federal Bldg., 1220 SW Third Ave., Room 1640, Portland, OR 97204
Utah	245 North Jimmy Doolittle Road, Salt Lake City, UT 84116
Washington	Rock Pointe Tower II, Suite 450, W. 316 Boone Ave., Spokane, WA 99201-2348
Wyoming	Federal Building, 100 East "B" Street, Casper, WY 82601

Annual and historical information is prepared by other agencies including: NOAA - State Climatological Annual Summaries, N.C.D.C., Asheville, NC 28801; California - Snow Survey Branch, California Department of Water Resources, P.O. Box 942836, Sacramento, CA 94236-0001; British Columbia - The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory - Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A3V1; Alberta Environment Technical Services Division, 9820 106th St., Edmonton, Alberta, T5K 2J6.

Other Sources

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Washington
Cooperative Snow Survey Data
of
Federal - State - Private
Cooperative Snow Surveys

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Soil Conservation Service Data Collection Network

Introduction

The Soil Conservation Service (SCS) has operated the Federal-State-Private Cooperative Snow Survey Program in the western United States since 1935. Utilizing a network of automated SNOTEL (SNOWpack TELEmetry) data collection sites, manual snow courses and storage precipitation gauges, SCS collects, analyzes, and manages snowpack and climatic data in support of water supply forecasting and other resource management activities.

Initially, over 2000 snow courses were established to collect information on mountain snowpack which provides over 75 percent of the West's water supply. The current network consists of approximately 800 active snow courses. Since the late 1970's, over 570 SNOTEL sites have been installed to enhance the network—in many cases replacing existing snow courses. These remote stations not only provide more timely information, they also offer the opportunity to collect additional data needed for management of our natural resources.

SNOTEL Sites

A standard SNOTEL site consists of a snow pillow, a storage-type precipitation gauge, air temperature sensor, and a small shelter for housing the electronics. Additional parameters such as soil moisture, soil temperature, wind, humidity, and solar radiation are monitored at certain stations for specific applications. SNOTEL sites report on a daily or more frequent basis. The following is an explanation of the standard parameters measured at all SNOTEL sites.

Snow Water Equivalent (SWE):

A snow pillow measures the snow water equivalent of the overlying snowpack. Snow pillows are "envelopes" of stainless steel or synthetic rubber (hypalon) containing an antifreeze solution. SWE is calculated by measuring the pressure exerted on these pillows by the weight of the snow. Hypalon snow pillows range in size from 6, 8, 10, or 12 feet in diameter with the larger pillows used in heavier snow accumulation zones. Stainless steel pillows are 4 feet x 5 feet and usually configured in groups of two, three, or four depending on snow depth.

Precipitation: The standard SNOTEL precipitation gauge is designed to store the expected annual precipitation at a specific site. The liquid equivalent (in inches) of rainfall, snow, sleet, or hail is measured by the gauge. The gauge is 12 inches in diameter with an after shield at the orifice to reduce wind effect on precipitation catch. The height of SNOTEL precipitation gauges is designed to be at least three feet above the maximum expected depth of the snowpack, resulting in total gauge heights of 8, 12, 16, 20, 24, 28, and 32 feet.

Temperature: Daily maximum, minimum, and average ambient air temperatures are collected at each site with a self-aspirating shielded temperature sensor.

Snow Courses

Snow courses are permanently marked locations where snow depth and SWE are measured. Most snow courses consist of five to ten sample points. Individual measurements are averaged to derive one value of snow depth and SWE for each snow course. Typically, snow courses are measured near the first of the month from January to June, with mid-month measurements conducted at some locations.

Manual Precipitation Gauges

Manually measured precipitation gauges have a 6-, 8-, or 10-inch orifice. Most gauges have an after shield to diminish the wind effect on precipitation catch. The gauges are measured near the end of the month to determine an approximate monthly precipitation total.

SNOTEL SWE's - WY 1993 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	DATE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	START DATE	MAX SWE	SNOWPACK MAX DATE	MELTOUT DATE	
BLEWETT PASS	4270	1st 15th	.0	.4	3.8	7.7	11.2	8.9	12.5	3.3	.0	.0	.0	.0	.0	10/30	13.7	3/21	5/26
BUMPING RIDGE	4600	1st 15th	.0	.2	4.2	11.8	16.6	17.2	21.0	19.8	.0	.0	.0	.0	.0	10/29	23.9	4/19	5/17
BUNCHGRASS MDW	5000	1st 15th	.0	1.3	6.0	10.9	15.6	17.0	19.8	21.3	.0	.0	.0	.0	.0	10/25	22.3	4/29	5/26
CORRAL PASS	6000	1st 15th	.0	.9	9.1	16.4	21.0	21.5	26.0	31.6	11.7	.0	.0	.0	.0	10/28	31.9	5/6	6/18
COUGAR MOUNTAIN	3200	1st 15th	.0	.0	4.8	14.7	17.3	15.8	10.1	.0	.0	.0	.0	.0	.0	11/8	20.4	1/25	4/26
FISH LAKE	3371	1st 15th	.0	.0	4.8	13.3	18.8	18.6	21.5	17.7	.0	.0	.0	.0	.0	11/1	21.6	3/23	5/15
GREEN LAKE	6000	1st 15th	.0	.7	4.2	11.3	15.6	16.8	19.9	20.7	.0	.0	.0	.0	.0	10/29	21.7	4/22	5/26
GROUSE CAMP	5380	1st 15th	.0	.8	4.0	7.8	11.6	12.5	12.1	8.8	.0	.0	.0	.0	.0	10/28	13.5	3/21	5/13
HARTS PASS	6500	1st 15th	.0	2.0	5.5	10.0	11.5	12.9	12.2	.0	.0	.0	.0	.0	.0	11/18	38.8	5/6	6/9
JUNE LAKE	3340	1st 15th	.0	.0	4.8	31.3	39.6	43.1	32.5	25.7	.0	.0	.0	.0	.0	11/18	47.4	3/5	5/18
LONE PINE	3800	1st 15th	.0	.0	4.9	18.0	25.0	25.5	25.3	28.3	8.5	.0	.0	.0	.0	11/18	28.9	4/29	6/21
LOST HORSE	5000	1st 15th	.0	.6	2.6	9.7	15.6	17.7	18.9	12.8	.0	.0	.0	.0	.0	10/29	19.2	3/21	5/15
LYMAN LAKE	5900	1st 15th	.0	.7	6.0	11.9	16.1	18.2	17.8	.0	.0	.0	.0	.0	.0	10/28	43.5	5/10	6/23
MINERS RIDGE	6200	1st 15th	.0	.6	8.7	20.2	27.6	28.3	32.2	39.5	14.6	.0	.0	.0	.0	10/28	40.2	5/9	6/19

* - Permanent snowpack commenced in prior Water Year.

SNOTEL SWE's - WY 1993 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	DATE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	START DATE	SNOWPACK MAX SWE	MAX SWE	MELTOUT DATE
MORSE LAKE	5400	1st 15th	.0	1.6 3.1	9.4 15.2	21.5 23.5	30.4 31.2	32.1 35.4	38.7 41.6	44.3 37.3	.0 .0	.0 .0	.0 .0	.0 .0	10/28	44.3	5/3	6/1
MOSES MTN	5300	1st 15th	.0	1.0 1.5	4.3 5.2	6.8 7.2	9.2 9.4	10.0 10.9	10.6 12.6	12.3 .7	.0 .0	.0 .0	.0 .0	.0 .0	10/29	13.2	4/19	5/20
MOUNT CRAG	4050	1st 15th	.0	.0 1	2.8 7.3	13.2 13.6	18.4 18.2	17.9 19.5	20.0 20.6	17.9 8.6	.0 .0	.0 .0	.0 .0	.0 .0	11/1	20.6	4/15	5/24
OLALLIE MEADOWS	3700	1st 15th	.0	.0 1.4	8.0 13.3	22.4 24.9	29.7 30.9	31.4 36.4	35.3 37.2	35.1 24.6	.0 .0	.0 .0	.0 .0	.0 .0	11/8	37.4	4/16	5/31
PARADISE	5120	1st 15th	.0	1.1 3.7	14.8 21.5	31.8 34.7	41.9 43.8	45.3 50.8	55.1 62.3	67.7 60.5	39.4 25.4	7.4 .0	.0 .0	.0 .0	10/29	68.0	5/6	7/8
PARK CREEK RIDGE	4600	1st 15th	.0	.7 4.2	9.6 14.7	18.0 20.1	24.7 25.5	26.1 26.4	27.6 27.8	25.6 17.4	.0 .0	.0 .0	.0 .0	.0 .0	10/29	28.9	3/23	5/27
PIGTAIL PEAK	5900	1st 15th	.0	1.4 1.9	8.2 13.7	20.1 21.4	26.7 27.3	28.1 30.4	34.3 41.7	46.8 42.3	2.0 .0	.0 .0	.0 .0	.0 .0	10/29	47.3	4/30	6/2
POPE RIDGE	3540	1st 15th	.0	.7 1.5	3.5 5.1	7.8 8.9	10.9 11.2	11.4 12.2	11.8 8.9	1.9 .0	.0 .0	.0 .0	.0 .0	10/28	13.0	3/23	5/5	
POTATO HILL	4500	1st 15th	.0	.0 1.1	5.5 9.8	15.4 17.0	20.4 20.6	21.3 20.8	19.6 19.6	15.7 2.0	.0 .0	.0 .0	.0 .0	.0 .0	11/8	23.4	3/5	5/17
QUARTZ PEAK	4700	1st 15th	.0	.0 2.1	5.7 7.2	11.4 13.7	16.7 16.7	17.4 19.0	18.2 18.8	16.8 4.0	.0 .0	.0 .0	.0 .0	.0 .0	11/3	19.8	3/23	5/18
RAINY PASS	4780	1st 15th	.0	1.0 3.0	6.9 9.8	15.5 15.7	20.7 21.9	21.8 23.4	26.0 27.8	25.6 15.7	.0 .0	.0 .0	.0 .0	.0 .0	10/28	28.0	4/13	5/28
SALEM MEADOWS	4500	1st 15th	.0	.7 .8	2.4 4.2	5.2 6.1	6.8 6.7	8.0 8.1	8.1 8.8	3.9 .0	.0 .0	.0 .0	.0 .0	10/29	8.9	4/14	5/7	
SASSE RIDGE	4200	1st 15th	.0	.6 2.5	7.9 11.9	17.5 19.3	22.5 23.4	24.0 27.1	27.0 26.0	21.7 4.4	.0 .0	.0 .0	.0 .0	.0 .0	10/29	27.5	3/23	5/18
SHEEP CANYON	4030	1st 15th	.0	.1 .0	5.2 12.2	25.7 28.3	34.1 32.5	35.8 38.3	32.0 23.1	18.9 10.6	.0 .0	.0 .0	.0 .0	.0 .0	11/18	40.1	3/19	5/23

* - Permanent snowpack commenced in prior Water Year.

SNOTEL SWE's - WY 1993 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	DATE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	START DATE	MAX SWE	MAX DATE	SNOWPACK MELTOUT DATE
SPENCER MEADOW	3400	1st	.0	.0	4.7	19.9	28.9	29.0	22.6	15.5	.0	.0	.0	.0	.0	33.5	3/5	5/15
SPIRIT LAKE	3120	1st	.0	.0	4.3	13.4	18.2	11.3	.0	.0	.0	.0	.0	.0	.0	20.9	1/26	3/15
STAMPEDE PASS	3860	1st	.0	.2	9.7	23.7	28.4	29.5	33.1	28.3	.0	.0	.0	.0	.0	34.5	3/23	5/28
STEVENS PASS	4070	1st	.0	.1	7.1	20.6	28.2	26.7	30.6	22.4	.0	.0	.0	.0	.0	33.5	3/23	5/19
SURPRISE LAKES	4250	1st	.0	.9	7.0	27.2	35.0	35.9	38.2	39.7	2.3	.0	.0	.0	.0	40.8	4/27	6/4
THUNDER BASIN	4200	1st	.0	.8	5.9	12.0	16.5	16.9	19.3	13.8	.0	.0	.0	.0	.0	19.7	3/23	5/20
TOUCHET #2	5530	1st	.0	.4	8.6	17.6	24.4	27.6	30.7	29.7	.0	.0	.0	.0	.0	32.3	4/19	5/26
TROUGH	5300	1st	.0	.9	2.8	5.0	8.0	9.0	8.7	5.6	.0	.0	.0	.0	.0	9.8	4/19	5/11
UPPER WHEELER	4400	1st	.0	1.5	3.5	7.4	8.1	9.1	9.6	.0	.0	.0	.0	.0	.0	13.0	3/18	5/12
WHITE PASS E.S.	4500	1st	.0	.0	4.1	12.0	16.7	17.5	17.9	14.5	.0	.0	.0	.0	.0	19.2	3/18	5/18

* - Permanent snowpack commenced in prior Water Year.

Snow Course Data - WY 1993 (Depth & SWE in inches)

SNOW COURSE NAME	ELEV. (ft.)	JANUARY				FEBRUARY				MARCH				APRIL				MAY				JUNE			
		DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE
AHTANUM R.S.	3100	1/3	35	7.5	2/1	30	9.1	3/1	34	11.2	3/31	20	8.8												
ALPINE MEADOWS	3500	1230	89	23.7	1/29	81	33.9	2/26	82	36.9	3/26	72	33.9												
BAIRD #2	3220	1/4	27	4.0	1/27	25	6.2	2/23	33	6.6	3/31	14	5.0												
BEAVER CREEK TRAIL	2200				1/29	44	12.0	2/27	37	12.5	3/31	18	9.9	4/28	0	0	5/29	0	0	0	0	0	0	0	0
BEAVER PASS	3680							2/26	43	15.8	3/31	40	18.6	4/29	26	12.6	5/29	0	0	0	0	0	0	0	0
BERNE-MILL CREEK (d)	3170	12/31	50	12.1	1/28	57	17.4	2/26	53	19.0	3/31	46	17.3	4/30	29	13.6									
BIG BOULDER CREEK	3200																								
BLEWETT PASS #2	4270				1/30	33	10.9				3/31	25	8.7												
BOYER MOUNTAIN	5250							2/25	56	17.2	4/1	48	17.9	4/29	45	19.6									
BRIEF	1600				1/25	29	6.0	2/22	23	6.9	3/20	12	5.0												
BROWN TOP AM	6000				1/29	101	30.0	2/26	87	31.0	3/30	100	39.6	4/28	99	40.6	5/29	30	16.0						
BUMPING LAKE	3450				1/28	33	10.4	2/24	31	10.1	3/30	20	8.5	4/30	0	0									
BUMPING LAKE (NEW)	3400				1/28	41	12.8	2/24	36	12.4	3/30	26	11.3	4/30	0	0									
BUNCHGRASS MEADOWS	5000							2/25	64	16.8	4/1	52	19.0	4/30	48	21.0									
BUTTE CREEK	4070										3/23	29	8.8												
CAYUSE PASS	5300										Est	-	53.8	Est	-	63.8									
CHEWALAH	4930										2/25	50	13.4												
CHEWALAH #2	4930										2/25	50	13.4	3/22	45	13.8									
CHIWAUKUM G.S.	2500	12/31	28	5.0	1/28	26	7.5	2/26	25	7.5	3/31	15	5.7	4/30	0	0									
CITY CABIN	2390	1230	32	10.0	1/29	33	10.5	2/26	27	10.9	3/16	16	6.8												
CLOUDY PASS AM	6500				2/4	70	26.6	2/25	68	25.8															
COLOCKUM PASS	5370				1/30	40	11.8				3/30	37	13.7												

Snow Course Data - WY 1993 (Depth & SWE in inches)

Snow Course Data - WY 1993 (Depth & SWE in inches)

SNOW COURSE NAME	ELEV. (ft.)	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
		DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE
LYNN LAKE	4000	1/1	52	15.8	1/30	46	15.8	3/2	45	18.7	4/1	29	11.8	5/3	18	8.2			
MARTEN LAKE AM	3600				2/1	104	40.8	2/24	82	31.0	3/25	96	45.9	5/5	86	42.1			
MEADOWS CABIN	1900				1/28	22	7.6	2/27	16	5.0	3/29	2	.9	4/29	0	0	5/29	0	.0
MERRITT	2140	12/31	27	6.5	1/28	34	9.8	2/26	29	10.4	3/31	21	7.8	4/30	0	0			
MIDDLE SULTAN	3010				2/1	41	16.2	2/25	43	15.0	4/2	7	3.1	4/28	0	0			
MISSION (OMAK)	1150				1/26	13	3.2												
MISSION RIDGE	5000				1/28	39	12.3	2/23	51	14.1	3/26	41	15.5						
MOUNT TOLMAN	2000				1/28	22	6.2	2/24	22	7.1	3/22	10	4.0						
MOSES MEADOWS (3)	3800				1/27	22	5.2				3/26	12	3.7						
MOSES MOUNTAIN (1)	4800				1/29	49	10.5	2/22	60	17.8	3/26	50	12.6	4/30	71	20.3			
MOSES PEAK (2)	6650				1/26	39	11.1	2/23	44	11.6	3/26	32	10.4	4/30	26	10.6			
MT. BLUM AM	5800				2/1	82	33.2	2/24	82	28.0	3/25	115	46.0	5/5	138	62.4			
MT. GARDNER	3300	12/30	39	13.1	1/29	39	13.1	2/26	33	13.3	3/26	16	7.8						
MUTTON CREEK #1	5700				1/27	39	8.3	3/3	41	11.0	3/31	34	8.3	Est	-	8.1			
NEW HOZOMEEN LAKE	2800				1/27	30	7.8	2/26	26	7.2	3/30	16	7.0	4/28	0	0	5/30	0	.0
OLALLIE MEADOWS	3630				2/1	40	17.7	3/1	34	16.9	4/2	29	14.7						
OLNEY PASS	3250				2/1	46	21.9	2/25	40	15.9	4/2	0	0	4/28	0	0			
RAGGED RIDGE	3330	Est	-	4.9	1/24	36	13.7	2/26	39	12.0	3/31	16	6.5						
RAINY PASS	4780				1/28	63	16.8	2/25	56	19.2	3/29	63	25.8	4/30	57	24.2	5/30	0	.0
ROCKY CREEK AM	2100				2/1	84	31.8	2/24	80	29.0	3/25	52	26.7	5/5	0	0			
RUSTY CREEK	4000				1/27	24	5.5	3/3	23	6.1	3/31	15	4.8						
SF THUNDER CK AM	2200				2/1	24	9.2	2/24	18	6.5	3/25	0	0	5/5	0	0			

Snow Course Data - WY 1993 (Depth & SWE in inches)

SNOW COURSE NAME	ELEV. (ft.)	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
		DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE	DATE	DEPTH	SWE
SALMON MEADOWS	4500				1/26	43	14.3	2/24	51	17.0	3/26	31	13.0						
SATUS PASS	4030				1/30	57	20.5	3/2	57	21.8	4/1	49	22.7	5/3	42	19.7			
SAWMILL RIDGE	4700	1/1	57	17.2	1/30	57	29.2	2/24	66	26.0	3/25	64	30.3	5/5	48	24.5			
SCHREIBERS MDW AM	3400				2/1	74		2/24			3/22	34	12.3						
STEMILT SLIDE	5000				1/27	36	11.0	2/22	46	12.1	3/22	50	20.7	4/30	31	14.7			
STEVENS PASS SAND SD	3700	12/31	61	15.2	1/28	62	20.0	2/26	57	20.3	3/31								
STICKNEY RIDGE	3640				2/1	77	36.3	2/25	78	31.3	4/2	64	34.0	4/28	70	36.4			
STRANGER MOUNTAIN	4230										3/22	42	13.8						
SUMMIT G.S.	4600				1/27	30	7.4	2/24	39	8.8	3/23	32	9.2						
SUMMIT G.S. #2	4600				1/27	32	8.4	2/24	41	9.0	3/23	32	9.1						
SUMMIT TRAIL(d)	3840				1/28	24	6.7	2/24	24	6.6	3/22	19	7.1						
THUNDER BASIN	4200				1/28	44	12.0	2/27	39	12.6	3/29	40	15.0	5/1	29	12.2	5/29	0	.0
TOGO	3370				1/29	34	10.0	2/26	41	11.2	3/29	28	10.8						
TUNNEL AVENUE	2450	12/28	32	7.8	1/27	43	13.6	2/23	40	13.9	3/29	32	12.7	4/27	6	2.6			
TWIN CAMP	4100	1/1	59	19.3	1/30	60	21.3	3/2	58	22.0	4/1	45	20.5	5/3	27	13.7			
TWIN LAKES	2700				1/28	26	7.0	2/24	31	7.3	3/31	12	5.1						
UPPER WHEELER	4400				1/26	34	10.0	2/22	43	10.9	3/22	27	10.7						
VAN EPPS PASS AM	5900										4/4	82	29.2						
WATSON LAKES AM	4500				2/1	83	33.0	2/24	86	33.0	3/25	88	40.5	5/5	86	43.9			
WHITE PASS E.S.	4500											Est	-	17.5					

Monthly Precipitation - WY 1993 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
BLEWETT PASS	4270	.8	5.0	4.4	4.6	.7	2.5	2.3	.9	2.9	1.6	.3	.1	26.1
BUMPING RIDGE	4600	3.5	6.9	7.9	6.5	1.0	7.2	6.1	2.6	3.3	1.0	.3	.3	49.2
BUNCHGRASS MDW	5000	3.7	6.2	4.8	4.6	1.5	3.5	5.9	3.5	4.1	5.6	3.2	1.4	48.0
CORRAL PASS	6000	2.3	10.1	7.8	4.4	1.2	4.8	6.7	4.9	3.9	4.8	1.1	.2	52.2
COUGAR MOUNTAIN	3200	5.7	14.3	12.1	8.5	.2	10.7	11.2	6.4	9.2	6.4	1.5	.8	87.0
FISH LAKE	3371	3.2	9.3	9.1	7.5	.1	6.3	5.9	3.5	3.3	1.8	.8	.1	50.9
GREEN LAKE	6000	1.3	4.2	7.2	4.2	1.5	2.4	2.6	1.9	2.6	.9	.2	.5	29.5
GROUSE CAMP	5380	1.3	3.9	3.9	4.1	.4	2.3	2.3	1.3	2.1	2.5	.4	.3	24.8
HARTS PASS	6500	3.2	6.0	4.4	6.2	.6	4.6	5.7	3.1	3.6	4.8	1.9	.7	49.8
JUNE LAKE	3340	12.9	16.8	22.5	15.9	4.1	20.7	27.9	8.3	5.8	3.1	2.5	.1	140.6
LONE PINE	3800	8.4	10.7	13.4	8.3	2.2	10.1	15.4	5.7	3.3	2.4	.5	.1	80.5
LOST HORSE	5000	1.4	3.2	7.3	5.2	1.6	3.1	2.5	1.5	1.9	1.2	.9	.0	29.8
LYMAN LAKE	5900	3.9	8.4	10.5	5.4	1.4	4.0	6.1	5.2	4.2	3.9	1.4	1.7	56.1
MINERS RIDGE	6200	4.9	10.1	12.8	7.2	1.5	4.8	6.9	5.7	5.8	5.2	2.3	2.0	69.2
MORSE LAKE	5400	4.3	9.8	10.6	7.3	1.3	7.5	7.8	4.3	2.8	2.3	.6	.3	58.9
MOSES MTN	5300	1.0	3.8	3.0	2.1	1.4	1.9	4.7	1.4	5.7	8.5	.9	.4	34.8
MOUNT CRAG	4050	5.2	6.3	10.3	6.8	.7	5.5	8.2	3.2	5.7	5.3	1.2	.4	58.8
OALLIE MEADOWS	3700	5.9	18.0	17.6	12.7	2.2	12.8	12.2	7.7	8.3	4.6	4.2	1.5	107.7
PARADISE	5120	6.5	17.0	13.3	11.4	1.5	10.6	12.3	6.5	5.9	6.3	1.7	.5	93.5
PARK CREEK RIDGE	4600	4.1	8.9	8.6	7.3	1.6	5.2	3.7	3.2	2.4	1.4	1.2	1.4	49.0
PIGTAIL PEAK	5900	3.2	9.2	11.5	6.7	1.4	6.4	7.6	4.8	4.0	2.4	.4	.1	57.7
POPE RIDGE	3540	1.5	3.5	4.1	4.3	.5	2.5	1.4	1.6	1.9	1.8	.5	.3	23.9
POTATO HILL	4500	3.1	8.1	8.8	4.9	.7	5.7	6.5	4.2	2.9	2.3	.5	.1	47.8
QUARTZ PEAK	4700	2.3	7.9	5.6	6.1	.8	4.3	6.3	3.1	1.8	5.8	1.3	1.3	46.6
RAINY PASS	4780	3.7	6.6	6.8	5.2	.4	4.7	4.0	3.8	4.5	3.1	1.6	.6	45.0
SALMON MEADOWS	4500	.8	2.9	2.4	2.1	.7	1.1	2.7	.8	2.7	7.3	1.7	.8	26.0
SASSE RIDGE	4200	2.4	8.9	8.8	6.4	.9	4.8	4.5	2.6	3.1	1.4	.1	.3	44.2
SHEEP CANYON	4030	11.2	12.8	17.6	11.4	4.5	15.8	21.7	11.5	8.6	5.9	1.2	.6	122.8
SPENCER MEADOW	3400	8.6	10.6	12.4	9.6	2.1	12.7	16.7	6.7	4.6	2.2	.9	.2	87.3
SPRIT LAKE	3120	6.2	11.7	10.3	4.5	1.1	8.8	11.1	5.9	3.3	1.2	1.1	.1	65.3
STAMPEDE PASS	3860	3.6	14.5	14.1	7.9	.8	7.5	6.6	4.1	6.3	2.8	.9	1.0	70.1
STEVENS PASS	4070	4.5	13.0	12.5	9.8	.7	8.2	6.9	6.7	4.7	2.1	1.4	.8	71.3
SURPRISE LAKES	4250	5.9	11.2	16.4	8.9	2.1	12.0	13.3	7.5	4.3	1.5	.7	.1	83.9
THUNDER BASIN	4200	4.9	7.5	6.9	6.6	.7	5.8	4.5	5.5	5.0	4.2	2.4	1.2	55.2
TOUCHET #2	5530	2.9	9.7	8.5	5.5	2.1	6.1	6.7	3.0	3.1	1.9	.9	.0	51.4

Monthly Precipitation - WY 1993 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
TROUGH	5300	1.6	2.4	3.3	3.2	1.1	1.6	1.7	1.2	2.7	1.6	.1	.1	20.6
UPPER WHEELER	4400	1.2	2.6	3.8	3.0	1.1	1.6	2.0	.7	2.9	1.8	1.0	.1	21.8
WHITE PASS E.S.	4500	2.1	5.7	7.9	4.6	1.1	4.5	3.8	1.5	1.4	.5	.5	.0	33.6

SNOTEL SWE Averages: 1961 - 1990 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	DATE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BLEWETT PASS	4270	1st 15th	.0 .0	.5 1.6	3.9 6.2	8.3 10.3	13.6 15.3	17.0 17.4	17.8 13.2	4.9 .5	0 .0	0 .0	0 .0	0 .0
BUMPING RIDGE	4600	1st 15th	.0 .0	.2 1.9	4.5 6.9	9.6 11.1	13.9 16.5	18.4 19.9	21.2 20.7	18.9 14.6	6.3 1.1	0 .0	0 .0	0 .0
BUNCHGRASS MDW	5000	1st 15th	.0 .0	1.1 3.2	5.6 8.2	10.9 14.4	17.8 20.5	21.5 25.0	26.6 27.7	26.9 22.9	15.4 0	0 .0	0 .0	0 .0
CORRAL PASS	6000	1st 15th	.0 .1	.9 3.3	7.8 11.0	13.5 17.4	21.3 24.9	27.6 30.4	32.6 32.7	29.5 27.2	19.6 9.8	0 .0	0 .0	0 .0
COUGAR MOUNTAIN	3200	1st 15th	.0 .0	.3 1.0	3.7 5.6	8.3 11.0	15.0 16.7	18.6 18.4	18.8 15.5	9.3 4.2	0 .0	0 .0	0 .0	0 .0
FISH LAKE	3371	1st 15th	.0 .0	.2 2.4	6.2 9.6	12.4 17.0	22.0 25.6	28.4 30.2	31.9 29.7	25.0 17.7	5.0 4.	0 .0	0 .0	0 .0
GREEN LAKE	6000	1st 15th	.0 .1	.6 2.2	4.8 7.2	9.0 11.6	14.1 16.0	17.5 19.2	20.7 21.1	19.7 15.6	3.8 3.	0 .0	0 .0	0 .0
GROUSE CAMP	5380	1st 15th	.0 .0	.3 2.0	4.6 7.1	8.9 11.2	13.8 15.5	17.1 18.6	19.8 15.4	9.2 4.2	0 .0	0 .0	0 .0	0 .0
HARTS PASS	6500	1st 15th	.0 .4	2.0 5.6	10.6 14.9	17.9 22.5	27.7 31.4	34.6 37.8	41.3 43.7	42.0 37.5	25.3 10.0	1.3 .0	0 .0	0 .0
JUNE LAKE	3340	1st 15th	.0 .1	.7 2.8	7.7 8.8	11.5 20.3	28.1 31.9	33.6 35.2	36.3 28.5	19.6 8.0	0 .0	0 .0	0 .0	0 .0
LONE PINE	3800	1st 15th	.0 .1	.4 2.2	6.9 8.2	12.0 16.2	20.8 25.2	28.1 30.0	32.1 32.3	26.4 26.1	9.4 1.5	0 .0	0 .0	0 .0
LOST HORSE	5000	1st 15th	.0 .0	1.3 1.5	5.8 10.8	15.3 19.0	22.4 22.7	25.6 26.4	26.4 22.1	8.2 .0	0 .0	0 .0	0 .0	0 .0
LYMAN LAKE	5900	1st 15th	.0 .7	2.5 8.2	14.7 21.0	25.4 31.3	39.0 44.1	48.4 52.5	56.9 59.6	58.7 54.4	43.3 28.3	7.8 2.3	0 .0	0 .0
MINERS RIDGE	6200	1st 15th	.0 1.0	2.1 7.3	15.6 21.4	40.2 43.3	46.9 50.6	52.2 51.6	51.3 48.5	38.1 27.6	15.7 5.7	0 .0	0 .0	0 .0

* - Average not established.

C-Conditional Average (based on less than 25 years of data)

SNOTEL SWE Averages: 1961 - 1990 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	DATE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MORSE LAKE	5400	1st 15th	.0 .0	.6 4.2	10.5 15.2	19.1 24.5	29.6 34.6	38.5 43.9	47.2 46.9	44.4 38.4	21.4 5.0	.0 .0	.0 .0	.0 .0
MOUNT CRAG	4050	1st 15th	.0 .0	.3 .6	4.4 7.2	11.3 14.5	16.9 22.1	23.9 31.1	31.5 29.9	22.4 10.7	.0 .0	.0 .0	.0 .0	.0 .0
OLALLIE MEADOWS	3700	1st 15th	.0 .3	1.3 4.7	11.3 16.3	20.3 27.3	34.3 40.6	44.6 47.9	53.5 53.2	51.0 46.2	30.0 13.4	1.5 .0	.0 .0	.0 .0
PARADISE	5120	1st 15th	.0 .5	1.7 6.9	14.8 19.5	23.6 31.7	38.5 47.7	47.9 53.8	62.1 67.9	61.8 61.3	48.1 34.9	17.5 4.9	.0 .0	.0 .0
PARK CREEK RIDGE	4600	1st 15th	.0 .1	1.4 3.5	8.7 14.2	18.4 25.0	29.6 35.0	40.6 41.4	41.6 43.1	33.6 25.1	5.2 1.2	.0 .0	.0 .0	.0 .0
PIGTAIL PEAK	5900	1st 15th	.0 .3	1.4 5.4	11.4 16.1	20.1 24.9	30.4 35.6	41.0 44.9	49.3 51.0	47.7 47.2	37.5 24.8	7.9 9.0	.0 .0	.0 .0
POPE RIDGE	3540	1st 15th	.0 .0	.4 2.0	4.7 7.3	9.1 11.1	13.9 15.4	16.7 17.1	15.7 10.9	1.6 .0	.0 .0	.0 .0	.0 .0	.0 .0
POTATO HILL	4500	1st 15th	.0 .2	.4 2.1	5.6 7.9	10.5 13.4	16.4 19.0	21.9 23.2	25.3 21.4	17.0 10.6	1.1 .0	.0 .0	.0 .0	.0 .0
QUARTZ PEAK	4700	1st 15th	.0 .0	.0 1.8	3.7 5.9	8.5 11.2	14.0 16.4	18.6 20.4	21.9 21.9	18.6 12.9	.0 .0	.0 .0	.0 .0	.0 .0
RAINY PASS	4780	1st 15th	.0 .3	1.4 4.2	8.4 12.6	15.4 19.9	24.5 29.0	32.7 35.6	38.0 39.1	36.8 31.8	20.4 8.0	.0 .0	.0 .0	.0 .0
SALMON MEADOWS	4500	1st 15th	.0 .0	.5 1.1	2.7 3.8	3.9 5.2	5.9 7.1	8.3 9.3	9.4 5.7	1.1 .5	.0 .0	.0 .0	.0 .0	.0 .0
SASSE RIDGE	4200	1st 15th	.0 .3	.8 2.9	7.2 9.9	12.4 16.6	21.6 24.5	27.4 29.6	32.1 29.6	24.1 14.4	1.3 .0	.0 .0	.0 .0	.0 .0
SHEEP CANYON	4030	1st 15th	.0 .1	.6 3.1	8.7 10.1	15.2 15.5	25.2 26.9	30.1 38.7	39.8 41.9	34.7 24.6	11.6 2.3	.0 .0	.0 .0	.0 .0
SPENCER MEADOW	3400	1st 15th	.0 .0	.0 .9	4.5 6.0	9.4 14.0	20.0 24.8	27.2 28.1	29.6 28.1	17.2 25.8	.0 .0	.0 .0	.0 .0	.0 .0

* - Average not established. C-Conditional Average (based on less than 25 years of data)

SNOTEL SWE Averages: 1961 - 1990 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	DATE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
SPIRIT LAKE	3120	1st 15th	.0 .0	.0 .9	1.3 2.7	1.8 4.6	6.4 7.3	6.6 4.9	3.6 .3	.3 .0	.0 .0	.0 .0	.0 .0	.0 .0
STAMPEDE PASS	3860	1st 15th	.0 .2	.7 3.6	9.5 13.6	16.7 23.2	28.8 34.6	38.2 40.3	44.4 43.6	39.1 31.2	15.0 3.6	.0 .0	.0 .0	.0 .0
STEVENS PASS	4070	1st 15th	.0 .1	.8 3.1	8.0 12.2	15.3 20.9	27.3 31.4	34.7 40.0	42.3 39.1	32.1 21.8	5.7 1.7	.0 .0	.0 .0	.0 .0
SURPRISE LAKES	4250	1st 15th	.0 .1	.8 3.8	10.6 14.0	20.2 24.3	30.4 34.5	37.5 39.8	44.2 42.6	36.1 31.6	14.5 .9	.0 .0	.0 .0	.0 .0
THUNDER BASIN	4200	1st 15th	.0 .3	.7 2.8	7.6 12.1	15.3 21.2	25.3 29.5	32.3 33.7	34.7 34.3	30.5 17.4	6.9 .0	.0 .0	.0 .0	.0 .0
TOUCHET #2	5530	1st 15th	.0 .0	.0 2.9	5.7 8.9	12.9 16.7	20.8 24.6	27.8 30.3	31.9 31.0	27.3 19.2	.0 .0	.0 .0	.0 .0	.0 .0
TROUGH	5300	1st 15th	.0 .1	.2 1.4	2.6 3.5	4.9 5.4	6.4 8.4	9.0 9.8	9.7 7.4	2.5 1.3	.0 .0	.0 .0	.0 .0	.0 .0
UPPER WHEELER	4400	1st 15th	.0 .0	.2 1.7	3.0 3.9	5.9 7.2	10.8 13.1	13.6 11.7	4.8 1.0	.0 .0	.0 .0	.0 .0	.0 .0	.0 .0
WHITE PASS E.S.	4500	1st 15th	.0 .1	.7 3.0	4.9 7.2	9.8 12.4	15.5 18.6	20.7 21.6	22.9 22.5	18.7 14.0	4.6 1.1	.9 .0	.0 .0	.0 .0

* - Average not established

C-Conditional Average (based on less than 25 years of data)

Snow Course SWE Averages: 1961-1990 (inches)

SNOW COURSE NAME	ELEV. (ft.)	JANUARY 1st 15th	FEBRUARY 1st 15th	MARCH 1st 15th	APRIL 1st 15th	MAY 1st 15th	JUNE 1st 15th
AHTANUM R.S.	3100	3.5	5.8	6.8	5.3		
ALPINE MEADOWS	3500			33.8	43.7		
BAIRD #2	3220			12.6	11.6		
BEAVER CREEK TRAIL	2200			25.1	29.7		
BEAVER PASS	3680					4.1	
BIG BOULDER CREEK						28.1	
BLEWETT PASS #2	3200	7.8	12.8	18.0	17.8		
BOYER MOUNTAIN	4270	6.4	11.6	14.3	15.1	7.7	
BRIEF	5250			21.6	25.7	7.5	
BROWN TOP AM	1600			6.0	6.9	23.6	
	6000			41.2	51.9	2.5	
BUMPING LAKE	3450	6.0	9.9	11.6	14.0	14.2	
BUMPING LAKE (NEW)	3400	7.5	12.2	14.2	17.6	12.1	
BUNCHGRASS MEADOWS	5000	14.8		16.9	19.8	7.5	
BUTTE CREEK	4070	4.2		21.8	26.6	16.5	
CARROL PASS	3650	11.0		6.4	8.2	10.9	
				17.5	23.8	10.9	
CAYUSE PASS	5300	32.4		52.9	65.3	26.8	
CHEWALAH	4930			10.2	13.5	29.5	
CHEWALAH #2	4930					5.7	
CHIWAUKUM G.S.	2500	4.8		8.7	10.7	9.0	
CITY CABIN	2390				12.3	31.3	
						26.9	
CLOUDY PASS AM	6500			27.1	32.9	12.1	
COLOCKUM PASS	5370			11.5	14.5	16.5	
CORRAL PASS	6000			21.7	33.9	40.1	
COX VALLEY	4500			24.9	32.4	40.1	
DEER PARK	5200			13.5	17.3	39.5	
						20.9	
DEVILS PARK	5900			30.3	36.9	20.9	
DOCK BUTTE AM	3800			41.1	56.1	18.7	
EASY PASS AM	5200	25.7		45.6	64.5	45.0	
FISH LAKE	3370	27.1		21.1	29.3	66.8	
FREEZEOUT CK. TRAIL	3500	10.7		8.8	11.1	85.4	
						31.4	
GOAT CREEK	3600	3.5		5.2	6.4	22.4	
GRANITE CREEK	3500			13.0	15.8	73.3	
GRASS MOUNTAIN #2	2900	4.8		10.3	13.9	52.5	
GREEN LAKE	6000			22.6	29.1	33.9	
GROUSE CAMP	5380			12.2	15.5	17.1	

* - Average not established. C-Conditional Average (based on less than 25 years of data)

Snow Course SWE Averages: 1961-1990 (inches)

SNOW COURSE NAME	ELEV. (ft.)	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
		1st	15th	1st	15th	1st	15th	1st	15th	1st	15th	1st	15th
HARTS PASS	6500			29.6		36.2		42.6		45.1		21.9	
HURRICANE	4500			13.7		17.4		22.1					
INDIAN ROCK	5340			18.2									
JASPER PASS AM	5400	37.9		58.8		75.0		86.0		89.3		81.1	
KELLER RIDGE	3700												
KROMONA MINE	2400			18.1		29.1		33.8		23.4		1.4	
DOMMERIE FLATS	2200	3.9		7.0		7.7		4.3					
LESTER CREEK	3100	8.0		14.8		17.7		23.3					
LITTLE MDWS AM	5280			30.2		37.2		44.0					
LYMAN LAKE	5900	23.5		40.5		49.8		58.7					
LYNN LAKE	4000			14.8		16.0		22.0		10.7			
MARTEN LAKE AM	3600	7.6		48.2		63.6		73.4		75.8			
MEADOWS CABIN	1900	30.1		5.4		6.2		4.8		1.1			
MERRITT	2140		7.1	12.4		14.4		12.8		3.6			
MIDDLE SULTAN	3010			9.4		16.9		20.2		13.0			
MISSION (OMAK)	1150					3.0							
MISSION RIDGE	5000					11.5		14.0		16.5			
MOUNT TOLMAN	2000					3.1		3.5					
MOSES MEADOWS (3)	3800					1.7		2.4					
MOSES MOUNTAIN (1)	4800	5.9				9.4		14.4		13.5		13.5	
MOSES PEAK (2)	6650			6.5		10.3		5.7					
MT. BLUM AM	5800	3.7		41.3		55.9		63.1		69.1		68.1	
MT. GARDNER	3300	24.4											
MUTTON CREEK #1	5700					9.2		14.2		14.1			
NEW HOZOMEEN LAKE	2800					8.0		11.4		13.2		9.6	
OALLIE MEADOWS	3630							10.9		10.4		4.5	
OLNEY PASS	3250	18.2											
PARADISE PARK R S	5500					29.3		38.7		44.8		43.5	
PARK CREEK RIDGE	4600	28.3				12.0		21.5		25.6		16.6	
PORE RIDGE	3540	17.5				47.0		56.9		68.5			
RAGGED RIDGE	3330					33.2		42.5		43.1			
RAINY PASS	4780	3.8				13.6		17.1		16.8			
ROCKY CREEK AM	2100	25.3											
RUSTY CREEK		11.7				6.2		7.4		3.5			
SF THUNDER CK AM	4000					5.0		3.8		39.3		40.6	
	2200	4.5				6.2		20.0		25.2		19.1	
						7.9		5.9		6.2		.5	
								4.9		7.9		1.1	

C-Conditional Average (based on less than 25 years of data) - Average not established

Snow Course SWE Averages: 1961-1990 (inches)

SNOW COURSE NAME	ELEV. (ft.)	JANUARY 1st	JANUARY 15th	FEBRUARY 1st	FEBRUARY 15th	MARCH 1st	MARCH 15th	APRIL 1st	APRIL 15th	MAY 1st	MAY 15th	JUNE 1st	JUNE 15th
SALMON MEADOWS	4500	6.8	8.9	8.9	8.2	9.4	9.4	4.6	4.6	2.8	2.8	16.6	
SATUS PASS	4030	7.7	29.7	7.7	29.7	7.7	36.3	28.2	28.2	56.2	56.2	41.4	
SAWMILL RIDGE	4700	23.9	47.9	23.9	47.9	58.8	58.8	12.8	12.8	6.4	6.4		
SCHREIBERS MDW AM	3400	35.1	10.3	35.1	10.3								
STEMILT SLIDE	5000	10.3	12.7										
STEVENS PASS SAND SD	3700	14.6	23.9	31.1	31.1	33.7	33.7	28.7	28.7				
STICKNEY RIDGE	3640	49.9	59.8	59.8	68.2	68.2	68.2	54.8	54.8				
STRANGER MOUNTAIN	4230	8.1	10.8	10.8	12.2								
SUMMIT G.S.	4600	5.6	7.1	7.1	8.1								
SUMMIT G.S. #2	4600	5.9	7.8	7.8	8.9								
THUNDER BASIN	4200	25.3	18.5	34.7	34.7			30.5	30.5				
TOGO	3370	7.8	9.3	10.8									
TUNNEL AVENUE	2450	15.4	19.3	19.2	23.7	20.8	20.8	12.7	12.7				
TWIN CAMP	4100	16.9	21.8	21.8	25.1								
TWIN LAKES	2700	6.7	8.7	8.7	5.2								
UPPER WHEELER	4400	8.0	9.4	7.8				1.4	1.4				
VAN EPPS PASS AM	5900												
WATSON LAKES AM	4500	24.2	38.7	53.3	64.9			67.2	67.2				
WHITE PASS E.S.	4500	8.8	13.0	19.4	20.7	23.7	23.5	25.0	25.0				
AIRSTRIP (DISC)	1800	1.9	3.9	3.5	1.2			23.3	23.3				

* - Average not established. C-Conditional Average (based on less than 25 years of data)

Monthly Precipitation Averages: 1961 - 1990 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
BLEWETT PASS	4270	2.2	5.5	5.4	7.2	4.5	2.9	2.0	1.2	1.5	.4	1.5	34.7	
BUMPING RIDGE	4600	3.6	9.4	8.1	7.3	5.7	3.9	2.9	2.6	.9	.8	2.4	54.7	
BUNCHGRASS MDW	5000	3.0	8.8	5.1	5.6	3.7	5.5	3.8	4.9	3.8	1.7	1.8	50.1	
CORRAL PASS	6000	3.6	9.8	7.5	9.8	6.7	6.5	5.0	4.2	2.5	1.1	1.2	60.2	
COUGAR MOUNTAIN	3200	7.8	17.3	11.4	13.5	10.1	10.2	7.3	6.3	4.2	2.7	2.3	4.9	
FISH LAKE	3371	5.1	9.9	8.1	10.6	8.3	6.0	2.8	2.6	1.5	1.7	1.1	2.3	
GREEN LAKE	6000	2.4	6.4	5.2	6.2	4.4	4.5	2.5	1.7	1.3	.8	.6	1.1	
GROUSE CAMP	5380	1.7	5.7	4.6	5.2	4.1	3.9	1.9	1.3	1.6	.6	.8	1.1	
HARTS PASS	6500	4.0	9.3	6.4	8.0	5.6	6.1	4.0	3.1	1.9	1.4	1.2	2.5	
JUNE LAKE	3340	10.2	27.2	18.2	26.0	15.7	21.2	11.0	9.3	4.9	2.4	2.1	4.5	
LONE PINE	3800	7.3	13.6	11.5	18.2	13.5	10.6	6.4	5.0	3.0	.8	1.3	2.6	
LOST HORSE	5000	1.6	5.6	5.1	5.8	4.1	4.3	2.3	1.6	1.2	.7	.5	1.1	
LYMAN LAKE	5900	6.8	12.4	10.4	13.3	8.5	8.0	6.2	3.5	2.5	2.0	1.6	3.2	
MINERS RIDGE	6200	6.4	9.4	12.4	9.6	7.8	6.9	4.8	2.3	2.1	1.4	1.6	4.1	
MORSE LAKE	5400	3.9	14.8	9.1	11.7	8.6	10.2	6.0	4.5	2.3	1.0	1.0	1.8	
MOUNT CRAG	4050	4.6	11.3	11.5	8.7	8.4	8.6	4.2	3.0	2.0	1.6	1.8	3.6	
OLALLIE MEADOWS	3700	9.5	18.7	14.8	19.0	13.8	12.7	10.1	6.5	4.2	2.8	2.0	4.7	
PARADISE	5120	8.4	19.6	13.9	16.0	12.3	11.4	10.4	7.2	4.0	1.6	1.2	4.5	
PARK CREEK RIDGE	4600	4.6	10.7	11.1	10.7	7.9	5.9	4.0	2.5	1.8	1.3	1.2	2.2	
PIGTAIL PEAK	5900	5.0	12.9	9.2	11.2	8.2	8.8	6.7	4.8	2.9	1.4	1.1	2.3	
POPE RIDGE	3540	2.0	6.3	5.0	5.7	4.0	4.1	2.2	1.9	2.1	.9	1.0	1.1	
POTATO HILL	4500	4.0	10.7	8.2	9.5	6.7	7.1	4.7	4.5	2.5	1.5	.7	2.3	
QUARTZ PEAK	4700	—	—	—	—	—	—	—	—	—	—	—	—	
RAINY PASS	4780	4.4	8.6	7.2	7.9	5.7	4.0	3.0	2.1	1.7	1.1	2.8	56.0	
SALMON MEADOWS	4500	1.8	3.3	2.2	1.8	2.4	2.0	2.4	2.7	1.3	1.2	.9	23.8	
SASSE RIDGE	4200	4.4	9.9	6.9	9.6	6.4	5.9	4.1	2.1	1.1	.6	.6	1.8	
SHEEP CANYON	4030	9.1	21.7	12.1	17.3	12.6	14.1	7.9	7.7	4.6	1.8	1.7	4.4	
SPENCER MEADOW	3400	7.0	15.3	11.9	15.6	12.4	11.3	5.8	4.7	2.7	1.6	1.4	3.1	
SPRINT LAKE	3120	6.7	13.0	9.9	17.1	9.3	10.8	5.9	5.5	2.5	.7	1.4	2.3	
STAMPEDE PASS	3660	6.7	14.2	10.9	13.3	10.4	9.2	6.7	5.4	3.0	2.0	1.8	3.7	
STEVEN'S PASS	4070	7.0	15.0	10.4	12.1	9.1	7.1	5.7	4.5	2.8	2.0	1.3	3.6	
SURPRISE LAKES	4250	5.9	17.1	11.2	13.1	10.4	10.5	8.1	5.5	3.9	1.9	1.4	3.2	
THUNDER BASIN	4200	6.2	13.0	10.9	10.3	5.5	4.8	6.2	2.7	2.7	2.1	2.3	2.0	
TOUCHET #2	5530	2.5	9.6	6.1	8.4	6.4	6.6	4.0	3.4	2.4	.9	1.1	53.3	
TROUGH	5300	1.5	4.6	3.7	3.5	3.3	3.5	1.5	1.4	1.3	.8	.9	26.1	

* - Average not established. C-Conditional Average (based on less than 25 years of data)

Monthly Precipitation Averages: 1961 - 1990 (inches)

SNOTEL SITE NAME	ELEV. (ft.)	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
UPPER WHEELER WHITE PASS E.S.	4400 4500	1.5 4.8	5.2 6.7	3.6 5.5	3.5 7.3	2.7 6.1	2.5 3.0	2.1 2.5	1.4 1.6	2.2 1.9	.6 2	.4 2	1.6 1.5	27.3 41.7

* - Average not established.

C-Conditional Average (based on less than 25 years of data)

Glossary:

A, Accumulated

Data value summed over several previous measurement periods.

AM, Aerial Marker

A vertical marker with equally-spaced crossbars at one- and two-foot increments. The depth of snow at these remote sites is determined by observation from low-flying aircraft. Snow water equivalent is calculated using measurements of snowpack density from nearby snow measurement sites.

Average

The mean value for a 30-year base period. The 30-year average is the accepted standard set by the World Meteorological Organization. The current base period is 1961-1990. A new 30-year average is calculated every 5 years. Standard averages are computed for sites having at least 25 years of data.

Basin

The major drainage area in which a measuring site is located.

Conditional Average

An average based on less than 25 years of data.

D, Disc., Discontinued

Site is no longer active and data collection has been discontinued.

Data

Refers to snow water equivalent or precipitation amounts.
Data value developed from a long-term correlation with a currently measured site. Estimates are provided when a site has been discontinued or a manual measurement was not made.

Elevation

The vertical reference of a site location above mean sea level, measured in feet.

Max Date, Maximum Date

The date when the snow water equivalent of the seasonal snowpack was at its highest prior to melting.

Max SWE, Maximum Snow Water Equivalent

The highest recorded value of snow water equivalent for the seasonal snowpack, in inches.

Meltout Date

The date when the seasonal snowpack was completely melted at a snow measuring site.

Months

Month names that head data columns in this report indicate:

1. Snow depth and snow water equivalent measurements that are usually taken near the end or middle of the month, and reported as first of month or fifteenth of month readings. This explains why, for example, a February 27 and a March 15 reading are shown under the March column.
2. Precipitation increment or catch measured during the month indicated.

Glossary:

Precipitation

The liquid equivalent (inches) of rainfall, snow, sleet, or hail, collected by precipitation storage gauges.

Seasonal Snowpack

The snowpack that typically starts accumulating in the fall or early winter and remains until meltout occurs the following spring or summer. This does not include the intermittent snowpacks that occasionally occur in the early fall or early summer.

SNOWTEL

Abbreviation for SNOWpack TELemetry. A west-wide system for obtaining snow water equivalent, precipitation, air temperature, and other hydrologic measurements from remote data sites via radio transmission.

Snow Course

A permanently marked data site where manual snow measurements are collected.

Site Number

An indexing/locating number based on alpha and numeric grid divisions. Refer to the Data Site Maps included with this report.

Snow Depth

An average of the vertical measurements of the depth of the snow measured at the snow course sample points and recorded to the nearest inch. Snow depth at aerial markers is estimated to the nearest half foot unless a ground measurement is made.

Start Date

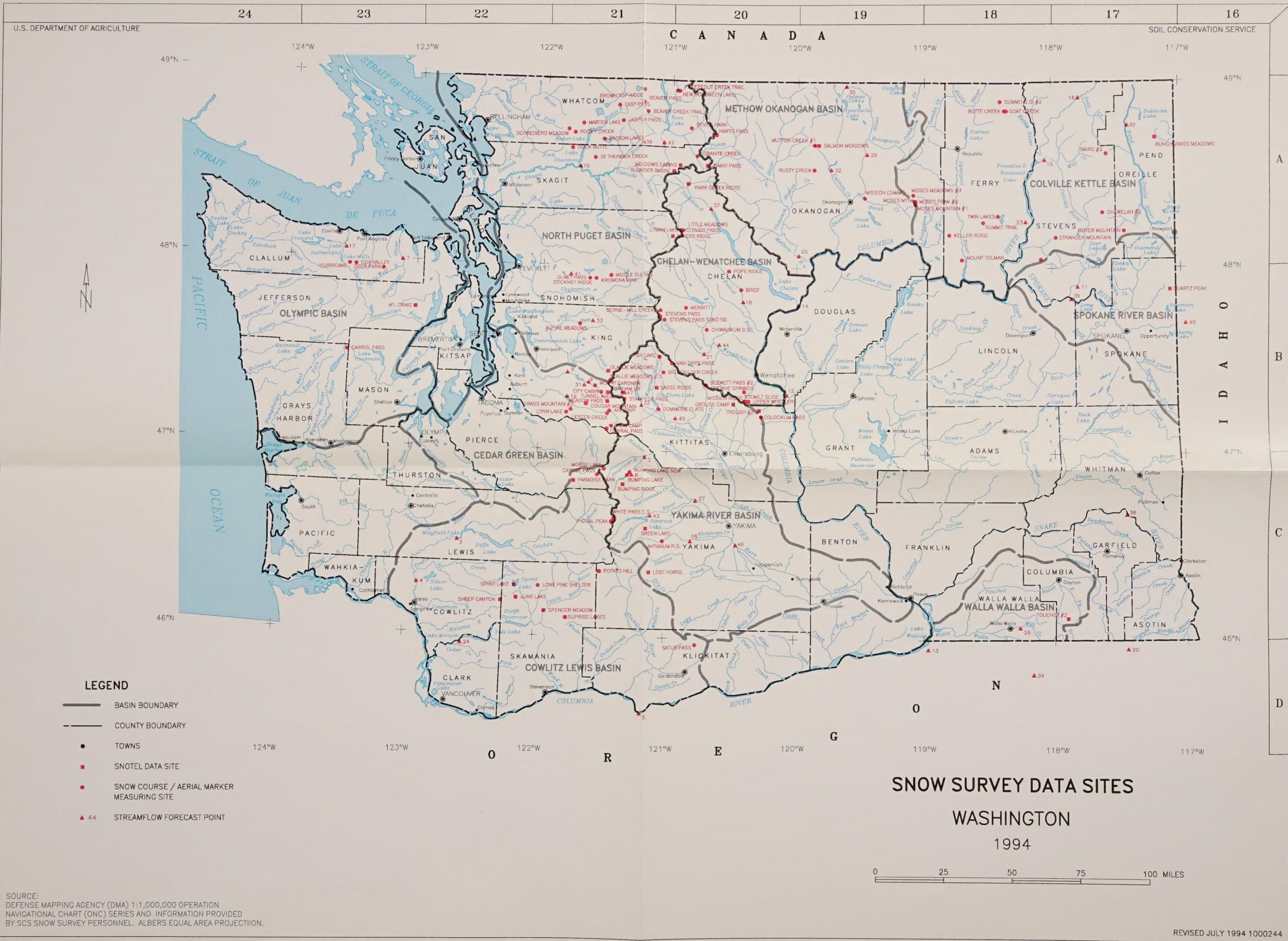
The date when the seasonal snowpack first began to accumulate at a snow measuring site.

SWE, Snow Water Equivalent

The depth of water in the snowpack, if the snowpack were melted, expressed in inches.

WY, Water Year

The water year in North America is referred to as the twelve month period beginning October 1 in one year and ending September 30 of the following year. The water year is designated by the calendar year in which it ends.



INDEX TO WASHINGTON SNOW DATA SITES

SITE NAME	SITE NO.	ELEV.	LAT.	LONG.	SEC.	TWP. RANGE	SITE CONFIGURATION	BASIN	SITE NAME	SITE NO.	ELEV.	LAT.	LONG.	SEC.	TWP. RANGE	SITE CONFIGURATION	BASIN		
AHTANUM R.S.	21C11	3100	46° 31'	121° 01'	24	12N	14E	SC	YAKIMA RIVER	OLNEY PASS	21B53	3200	47° 56'	121° 38'	3	28N	9E	SC	NORTH PUGET
AIRSTRIPE	21B24	1800	47° 13'	121° 27'	18	20N	11E	SC	CEDAR AND GREEN	PARADISE PARK	21C355	5500	46° 50'	121° 43'	13	15N	8E	S.P.T	COWLITZ AND LEWIS
ALPINE MEADOWS	21B48	3500	47° 41'	121° 42'	21	27N	9E	SC	NORTH PUGET	PARK CREEK RIDGE	20A125	4600	48° 27'	120° 52'	18	34N	16E	SC,S.P.T	CHELAN AND WENATCHEE
BAIRD # 2	17A07	3220	48° 37'	117° 34'	19	36N	42E	SC	COLVILLE AND KETTLE	PIGTAIL PEAK	21C335	5900	46° 37'	121° 25'	11	13N	11E	SC,S.P.T	COWLITZ AND LEWIS
BEAVER CREEK TRAIL	21A04	2200	48° 50'	121° 12'	35	39N	12E	SC	NORTH PUGET	POPE RIDGE	20B205	3540	47° 59'	120° 32'	22	29N	18E	S.P.T	CHELAN AND WENATCHEE
BEAVER PASS	21A01	3680	48° 53'	121° 14'	9	39N	12E	SC	NORTH PUGET	POTATO HILL	21C145	4500	46° 21'	121° 30'	36	10N	10E	SC,S.P.T	COWLITZ AND LEWIS
BEEHIVE SPRINGS	20B03	4400	47° 20'	120° 24'	12	21N	19E	SC	CHELAN AND WENATCHEE	QUARTZ PEAK	17B035	4730	47° 53'	117° 05'	34	28N	45E	S.P.T	SPOKANE RIVER
BERNE-MILL CREEK	21B23	3240	47° 46'	121° 04'	12	26N	14E	SC	CHELAN AND WENATCHEE	RAGGED RIDGE	17B02	3330	47° 46'	117° 05'	12	27N	45E	SC	SPOKANE RIVER
BIG BOLDER CREEK	21B09	3200	47° 26'	121° 02'	35	23N	14E	SC	YAKIMA RIVER	RAINY PASS	20A095	4780	48° 33'	120° 43'	21	35N	17E	SC,S.P.T	NORTH PUGET
BLEWETT PASS # 2	20B025	4270	47° 22'	120° 39'	35	22N	17E	SC,S.P.T	CHELAN AND WENATCHEE	ROCKY CREEK	21A12	2100	48° 43'	121° 47'	20	37N	8E	SC	NORTH PUGET
BOYER MOUNTAIN	17A02	5250	48° 12'	117° 26'	7	31N	43E	SC	COLVILLE AND KETTLE	RUSTY CREEK	19A03	4000	48° 32'	119° 52'	18	35N	24E	SC	METHOW AND OKANOGAN
BRIEF	20B19	1600	47° 53'	120° 26'	34	28N	19E	SC	CHELAN AND WENATCHEE	SASSE RIDGE	21B515	4200	47° 21'	121° 05'	22	22N	14E	S.P.T	YAKIMA RIVER
BROWN TOP RIDGE	21A28	6000	48° 57'	121° 14'	26	40N	12E	SC	NORTH PUGET	SF THUNDER CREEK	21A14	2200	48° 35'	121° 37'	20	36N	9E	SC	NORTH PUGET
BUMPING LAKE	21C08	3450	46° 52'	121° 18'	23	16N	12E	SC	YAKIMA RIVER	SALMON MEADOWS	19A025	4500	48° 40'	119° 50'	33	37N	24E	S.P.T	METHOW AND OKANOGAN
BUMPING LAKE NEW	21C36	3400	46° 53'	121° 17'	13	16N	12E	SC	YAKIMA RIVER	SATUS PASS	20D01	4030	45° 58'	120° 45'	21	6N	17E	SC	YAKIMA RIVER
BUMPING RIDGE	21C385	4600	46° 49'	121° 20'	9	15N	12E	S.P.T	YAKIMA RIVER	SCHREIBERS MEADOW	21A10	3400	48° 44'	121° 50'	18	37N	8E	SC	NORTH PUGET
BUNCHGRASS MEADOWS	17A015	5000	48° 42'	117° 11'	24	37N	44E	SC,S.P.T	COLVILLE AND KETTLE	SHEEP CANYON	22C105	4050	46° 11'	122° 15'	12	8N	4E	S.P.T	COWLITZ AND LEWIS
BUTTE CREEK	18A03	4070	48° 51'	118° 22'	28	39N	35E	SC	COLVILLE AND KETTLE	SPENCER MEADOW	21C205	3400	46° 08'	121° 55'	16	8N	7E	S.P.T	COWLITZ AND LEWIS
BUTTE CREEK #2	18A15	4070	48° 51'	118° 22'	28	39N	35E	SC	COLVILLE AND KETTLE	SPIRIT LAKE	22C125	3100	46° 16'	122° 09'	10	9N	5E	S.P.T	COWLITZ AND LEWIS
CARROL PASS	23B15	3710	47° 30'	123° 31'	36	24N	7W	SC	OLYMPIC	STAMPEDE PASS	21B105	3860	47° 17'	121° 20'	25	21N	11E	S.P.T	CEDAR AND GREEN
CAYUSE PASS	21C06	5300	46° 52'	121° 32'	15	16N	10E	SC	COWLITZ AND LEWIS	STEMILT SLIDE	20B06	5000	47° 17'	120° 23'	30	21N	20E	SC	CHELAN AND WENATCHEE
CHEWELAH # 2	17A08	4900	48° 18'	117° 36'	11	32N	41E	SC	COLVILLE AND KETTLE	STEVENS PASS	21B015	4070	47° 44'	121° 04'	14	26N	13E	S.P.T	CHELAN AND WENATCHEE
CHIWAUKUM G.S.	20B16	2500	47° 40'	120° 42'	4	25N	17E	SC	CHELAN AND WENATCHEE	STEVENS PASS SAND SD	21B45	3700	47° 43'	121° 02'	12	26N	13E	SC	CHELAN AND WENATCHEE
CITY CABIN	21B03	2390	47° 19'	121° 31'	10	21N	10E	SC	CEDAR AND GREEN	STICKNEY RIDGE	21B58	3640	47° 56'	121° 38'	14	28N	9E	SC	NORTH PUGET
CLOUDY PASS	20A22	6500	48° 12'	120° 55'	12	31N	15E	A	CHELAN AND WENATCHEE	STRANGER MTN.	17A05	4230	48° 10'	117° 58'	25	31N	38E	SC	COLVILLE AND KETTLE
COLOCUM PASS	20B09	5370	47° 12'	120° 16'	25	20N	20E	SC	YAKIMA RIVER	SUMMIT G.S. # 2	18A16	4600	48° 54'	118° 24'	20	39N	35E	SC	COLVILLE AND KETTLE
CORRAL PASS	21B135	6000	47° 07'	121° 28'	30	18N	11E	SC,S.P.T	CEDAR AND GREEN	SUMMIT TRAIL	18A13	3840	48° 15'	118° 32'	27	32N	34E	SC	COLVILLE AND KETTLE
COUGAR MOUNTAIN	21B425	3200	47° 15'	121° 38'	21	21N	9E	SC,S.P.T	NORTH PUGET	SURPRISE LAKES	21C135	4250	46° 06'	121° 45'	14	7N	8E	SC,S.P.T	COWLITZ AND LEWIS
COX VALLEY	23B14	4500	47° 58'	123° 29'	31	29N	6W	SC	OLYMPIC	THUNDER BASIN	20A075	4200	48° 31'	120° 59'	10	35N	14E	SC,S.P.T	NORTH PUGET
DEER PARK	23B04	5200	47° 57'	123° 16'	1	28N	5W	SC	OLYMPIC	TOGO	18A10	3370	48° 03'	118° 05'	6	29N	38E	SC	COLVILLE AND KETTLE
DEVILS PARK	20A04	5900	48° 45'	120° 51'	34	38N	16E	SC	NORTH PUGET	TOUCHET # 2	17D055	5530	46° 07'	117° 54'	6	7N	40E	S.P.T	WALLA WALLA
DOCK BUTTE	21A11	3800	48° 38'	121° 48'	8	36N	8E	SC	NORTH PUGET	TROUGH # 2	20B255	5310	47° 14'	120° 17'	10	20N	20E	S.P.T	CHELAN AND WENATCHEE
DOMMERIE FLATS	21B14	2200	47° 14'	121° 04'	15	20N	14E	SC	YAKIMA RIVER	TUNNEL AVENUE	21B08	2450	47° 19'	121° 21'	13	21N	11E	SC	YAKIMA RIVER
EASY PASS	21A07	5200	48° 26'	121° 26'	19	39N	11E	SC	NORTH PUGET	TWIN CAMP	21B30	4100	47° 08'	121° 26'	18	19N	11E	SC	CEDAR AND GREEN
FISH LAKE	21B045	3370	47° 31'	121° 04'	28	24N	14E	SC,S.P.T	YAKIMA RIVER	TWIN LAKES	18A11	2700	48° 17'	118° 25'	9	32N	35E	SC	COLVILLE AND KETTLE
FREEZEOUT CREEK TRAIL	20A01	3500	48° 57'	120° 57'	14	40N	14E	SC	NORTH PUGET	UPPER WHEELER	20B075	4400	47° 17'	120° 22'	30	21N	20E	SC,S.P.T	CHELAN AND WENATCHEE
GOAT CREEK	18A04	3600	48° 51'	118° 21'	26	39N	35E	SC	COLVILLE AND KETTLE	VAN EPPS PASS	20B26	5900	47° 29'	120° 58'	15	23N	15E	SC	YAKIMA RIVER
GRANITE CREEK	20A06	3500	48° 36'	120° 48'	25	36N	16E	SC	NORTH PUGET	WATSON LAKES	21A08	4500	48° 41'	121° 33'	25	37N	9E	SC	NORTH PUGET
GRASS MOUNTAIN # 2	21B27	2900	47° 13'	121° 45'	14	20N	8E	SC	CEDAR AND GREEN	WHITE PASS E.S.	21C285	4500	46° 38'	121° 24'	2	13N	11E	SC,S.P.T	YAKIMA RIVER
GREEN LAKE	21C105	6000	46° 35'	121° 09'	3	12N	13E	SC,S.P.T	YAKIMA RIVER										
GROUSE CAMP	20B115	5380	47° 16'	120° 29'	29	21N	19E	S.P.T	YAKIMA RIVER										
HARTS PASS	20A055	6500	48° 43'	120° 39'	7	37N	18E	SC,S.P.T	METHOW AND OKANOGAN										
HURRICANE	23B03	4500	47° 58'	123° 32'	36	29N	7W	SC	OLYMPIC										
JASPER PASS	21A06	5400	48° 47'	121° 24'	17	38N	11E	SC	NORTH PUGET										
JUNE LAKE	22C095	3200	46° 12'	122° 08'	26	8N	5E	S.P.T	COWLITZ AND LEWIS										
KELLER RIDGE	18A14	3700	48° 11'	118° 48'	21	31N	32E	SC	COLVILLE AND KETTLE										
KROMONA MINE	21B57	2400	47° 56'	121° 35'	13	28N	9E</												

The Following Agencies and Organizations Cooperate With the Soil Conservation Service in Snow Survey Work:

Canada	Local
Ministry of the Environment Investigations Branch, Victoria, British Columbia	
Federal	
Department of the Army	City of Tacoma
Corps of Engineers	City of Seattle
U.S. Department of Agriculture	Chelan County P.U.D.
Forest Service	Pacific Power and Light Company
U.S. Department of Commerce	Puget Sound Power and Light Company
NOAA, National Weather Service	Washington Water Power Company
U.S. Department of Interior	Snohomish County P.U.D.
Bonneville Power Administration	Colville Confederated Tribes
Bureau of Reclamation	Spokane County
Geological Survey	Yakima Indian Nation
National Park Service	
Bureau of Indian Affairs	
	Okanogan Irrigation District
	Wenatchee Heights Irrigation District
	Newman Lake Homeowners Association
State	
Washington State Department of Ecology	
Washington State Department of Natural Resources	

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